

[This listing of claims will replace all prior versions, and listings, of claims in the application.]

Listing of Claims:

1. (Presently Amended) A method of ~~tracking-undoing~~ changes to the content of at least one database, comprising the steps of:

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- (1) storing data in a database;
 - (2) sequentially performing a plurality of loads to said database; and
 - (3) undoing at least one of said plurality of loads, wherein the undone load is a load performed prior to a most recent load performed to said database;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

2. (Presently Amended) A method of undoing changes made to the content of at least one database, comprising the steps of:

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- (1) storing data in a database;
 - (2) performing a plurality of loads to said database;
 - (3) undoing at least one of said plurality of loads; and

~~The method of claim 1, further comprising the step of:~~

- ~~(4) ignoring step (2)(3) such that the resulting content of the database reflects data as if the previously undone loading step did occur,~~

wherein, subsequent to step (3), the resulting content of the database reflects the data as if the undone load had not been performed and, subsequent to step (4), the resulting content of the database reflects the data as if the undone load had been performed.

3. Canceled.

4. (Presently Amended) A method of undoing changes made to the content of at least one database, comprising the steps of:

- (1) storing data in a database;

(2) performing a plurality of loads to said database, wherein the load data comprises a load table and the database comprises a target table, and ~~The method of claim 3,~~
wherein a table structure of a table in a first load is different from a table structure of a table in a second load; and

(3) undoing at least one of said plurality of loads,
wherein the resulting content of the database reflects the data as if the undone load had not been performed.

5. (Presently Amended) The method of claim 34, wherein the database table rows and the load table rows are correlated via a primary key.

6. (Presently Amended) A method of undoing changes made to the content of at least one database, comprising the steps of:

(1) storing data in a database;

(2) performing a plurality of loads to said database, wherein the load data comprises a load table and the database comprises a target table, and wherein the database table rows and the load table rows are correlated via a primary key; and

(3) undoing at least one of said plurality of loads;
wherein the resulting content of the database reflects the data as if the undone load had not been performed, and ~~The method of claim 5,~~

wherein performing a load in step (2) comprises the steps of:

- i. inserting rows into the target with new key values;
- ii. updating rows in the target table with existing key values; and
- iii. deleting rows from the target table when a row's key value does not exist in the load table.

7. (Original) The method of claim 6, wherein during step (2) i., when inserting a row with a primary key which at some point in the past was deleted prior to said load, those columns

for which the load does not contain data are set to the values that they had when the row was last deleted.

8. (Presently Amended) A method of undoing changes made to the content of at least one database, comprising the steps of:

(1) storing data in a database;

(2) performing a plurality of loads to said database, wherein the load data comprises a load table and the database comprises a target table;

(3) undoing at least one of said plurality of loads; and

~~The method of claim 3, comprising the step of:~~ *history log*

(4) recording information in a second table, separate from said target table, wherein said information corresponds to each modification made to said target table;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

9. (Original) The method of claim 8, comprising the step of:

(5) reconstructing a load sequence of said target table as it existed just before a load retraction.

10. (Original) The method of claim 9, further comprising the step of:

(6) reconstructing a historical state of said target table at a discrete time in said load sequence, wherein said reconstructing is performed based at least in part on the information in the second table.

11. (Presently Amended) A system for ~~tracking~~ undoing changes to the content of at least one database, comprising:

a processor; and

a memory;

wherein in the memory is stored a database and computer readable instructions such that when the computer readable instructions are executed by the processor the system is adapted to perform the steps of:

- (1) storing data in a database;
- (2) sequentially performing a plurality of loads to the database; and
- (3) undoing at least one of said plurality of loads, wherein the undone load is a load performed prior to a most recent load performed to said database;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

12. (Presently Amended) A system for undoing changes made to the content of at least one database, comprising:

a processor; and

a memory;

wherein in the memory is stored a database and computer readable instructions such that when the computer readable instructions are executed by the processor the system is adapted to perform the steps of:

- (1) storing data in a database;
- (2) performing a plurality of loads to the database;
- (3) undoing at least one of said plurality of loads; and

The system of claim 11, wherein the computer readable instructions further cause the system to perform the step of:

- (4) ignoring step (2)(3) such that the resulting content of the database reflects data as if the previously undone loading step did occur,

wherein, subsequent to step (3), the resulting content of the database reflects the data as if the undone load had not been performed and, subsequent to step (4), the resulting content of the database reflects the data as if the undone load had been performed.

13. Canceled.

14. (Presently Amended) A system for undoing changes made to the content of at least one database, comprising:

a processor; and

a memory;

wherein in the memory is stored a database and computer readable instructions such that when the computer readable instructions are executed by the processor the system is adapted to perform the steps of:

(1) storing data in a database;

(2) performing a plurality of loads to the database, wherein the load comprises a load table and the database comprises a target table, and ~~The system of claim 13,~~ wherein a table structure of a table in a first load is different from a table structure of a table in a second load; and

(3) undoing at least one of said plurality of loads;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

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15. (Presently Amended) The system of claim ~~13~~14, wherein the database table rows and the load table rows are correlated via a primary key.

16. (Presently Amended) A system for undoing changes made to the content of at least one database, comprising:

a processor; and

a memory;

wherein in the memory is stored a database and computer readable instructions such that when the computer readable instructions are executed by the processor the system is adapted to perform the steps of:

(1) storing data in a database;

(2) performing a plurality of loads to the database, wherein the load comprises a load table and the database comprises a target table, and wherein the database table rows and the load table rows are correlated via a primary key; and

(3) undoing at least one of said plurality of loads;

~~The system of claim 15,~~ wherein performing a load in step (2) comprises the steps of:

- i. inserting rows into the target with new key values;
- ii. updating rows in the target table with existing key values; and
- iii. deleting rows from the target table when a row's key value does not exist in the load table;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

31 17. (Original) The system of claim 16, wherein during step (2) i., when inserting a row with a primary key which at some point in the past was deleted prior to said load, those columns for which the load does not contain data are set to the values that they had when the row was last deleted.

18. (Presently Amended) A system for tracking undoing changes made to the content of at least one database, comprising:

a processor; and

a memory;

wherein in the memory is stored a database and computer readable instructions such that when the computer readable instructions are executed by the processor the system is adapted to perform the steps of:

(1) storing data in a database;

(2) performing a plurality of loads to the database;

(3) undoing at least one of said plurality of loads; and

~~The system of claim 13, wherein the computer readable instructions further cause the system to perform the step of:~~

(4) recording information in a second table, separate from said target table, wherein said information corresponds to each modification made to said target table;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

19. (Original) The system of claim 18, wherein the computer readable instructions further cause the system to perform the step of:

(5) reconstructing a load sequence of said target table as it existed just before a load retraction.

20. (Original) The system of claim 19, wherein the computer readable instructions further cause the system to perform the step of:

(6) reconstructing a historical state of said target table at a discrete time in said load sequence, wherein said reconstructing is performed based at least in part on the information in the second table.

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21. (Presently Amended) A computer readable medium storing computer readable instructions that, when executed by a processing unit, cause a data processing device to ~~track~~ undo changes to the content of at least one database by performing the steps of:

(1) storing data in a database;
(2) sequentially performing a plurality of loads to said database; and
(3) undoing at least one of said plurality of loads, wherein the undone load is a load performed prior to a most recent load performed to said database;

wherein the resulting content of the database reflects the data as if the undone load had not been performed.

22. (Presently Amended) A computer readable medium storing computer readable instructions that, when executed by a processing unit, cause a data processing device to undo changes made to the content of at least one database by performing the steps of:

(1) storing data in a database;
(2) performing a plurality of loads to said database;
(3) undoing at least one of said plurality of loads; and
The computer readable medium of claim 21, wherein the computer readable instructions further cause the data processing device to perform the step of:
(4) ignoring step (2)(3) such that the resulting content of the database reflects data as if the previously undone loading step did occur
wherein, subsequent to step (3), the resulting content of the database reflects the data as if the undone load had not been performed and, subsequent to step (4), the resulting content of the database reflects the data as if the undone load had been performed.

23. Canceled.

24. (Presently Amended) A computer readable medium storing computer readable instructions that, when executed by a processing unit, cause a data processing device to undo changes made to the content of at least one database by performing the steps of:

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(1) storing data in a database;
(2) performing a plurality of loads to said database, wherein the load data comprises a load table and the database comprises a target table, and The computer readable medium of claim 23, wherein a table structure of a table in a first load is different from a table structure of a table in a second load; and
(3) undoing at least one of said plurality of loads,
wherein the resulting content of the database reflects the data as if the undone load had not been performed.

25. (Presently Amended) The computer readable medium of claim 2324, wherein the database table rows and the load table rows are correlated via a primary key.

26. (Presently Amended) A computer readable medium storing computer readable instructions that, when executed by a processing unit, cause a data processing device to undo changes made to the content of at least one database by performing the steps of:

- (1) storing data in a database;
 - (2) performing a plurality of loads to said database, wherein the load data comprises a load table and the database comprises a target table, and wherein the database table rows and the load table rows are correlated via a primary key; and
 - (3) undoing at least one of said plurality of loads;
- wherein the resulting content of the database reflects the data as if the undone load had not been performed, and~~The computer readable medium of claim 25,~~

wherein performing a load in step (2) comprises the steps of:

- i. inserting rows into the target with new key values;
- ii. updating rows in the target table with existing key values; and
- iii. deleting rows from the target table when a row's key value does not exist in the load table.

27. (Original) The computer readable medium of claim 26, wherein during step (2) i., when inserting a row with a primary key which at some point in the past was deleted prior to said load, those columns for which the load does not contain data are set to the values that they had when the row was last deleted.

28. (Presently Amended) A computer readable medium storing computer readable instructions that, when executed by a processing unit, cause a data processing device to undo changes made to the content of at least one database by performing the steps of:

- (1) storing data in a database;
- (2) performing a plurality of loads to said database;
- (3) undoing at least one of said plurality of loads; and

~~The computer readable medium of claim 23, wherein the computer readable instructions further cause the data processing device to perform the step of:~~

(4) recording information in a second table, separate from said target table, wherein said information corresponds to each modification made to said target table, wherein the resulting content of the database reflects the data as if the undone load had not been performed.

29. (Original) The computer readable medium of claim 28, wherein the computer readable instructions further cause the data processing device to perform the step of:

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- (5) reconstructing a load sequence of said target table as it existed just before a load retraction.

30. (Original) The computer readable medium of claim 29, wherein the computer readable instructions further cause the data processing device to perform the step of:

- (6) reconstructing a historical state of said target table at a discrete time in said load sequence, wherein said reconstructing is performed based at least in part on the information in the second table.
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